Volunteer Lake Assessment Program Individual Lake Reports

CLARKSVILLE POND, CLARKSVILLE, NH

MORPHOMETRIC DATA

Watershed Area (Ac.):	169	**Max. Depth (m):**	4.7	**Flushing Rate (yr^{1})**	3.5
Surface Area (Ac.):	25	**Mean Depth (m):**	1.5	**P Retention Coef:**	0.65
Shore Length (m):	1,100	**Volume (m^3):**	147,000	**Elevation (ft):**	2027

TROPHIC CLASSIFICATION

Year	Trophic class
1985	OLIGOTROPHIC
2004	MESOTROPHIC

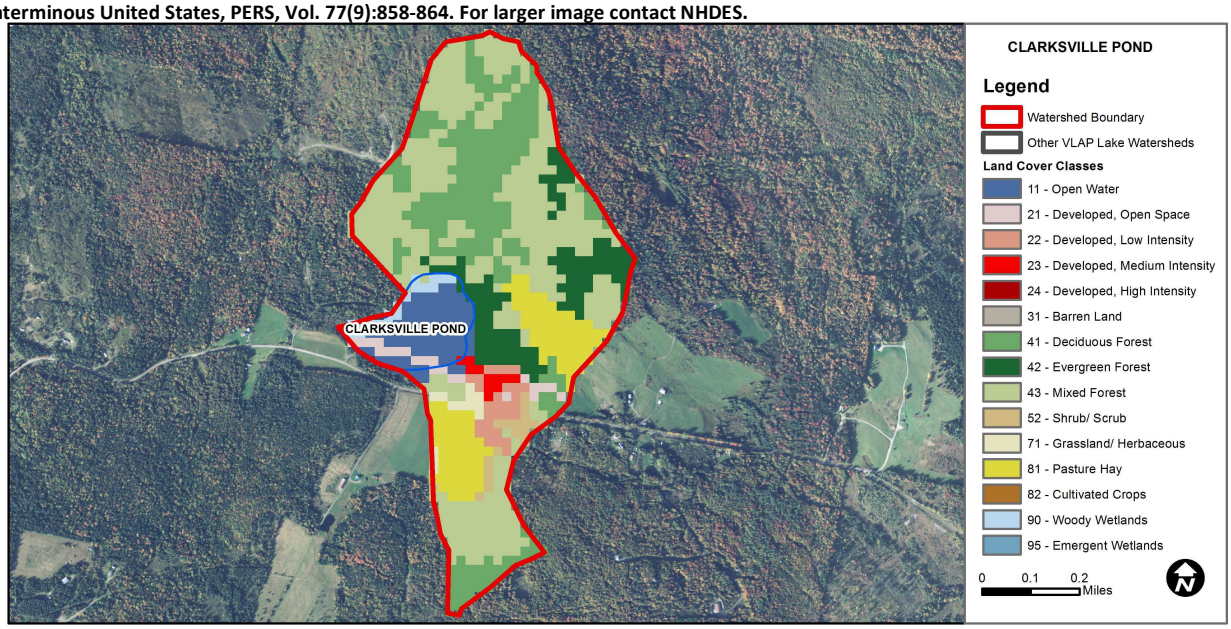
KNOWN EXOTIC SPECIES

The Waterbody Report Card tables are generated from the 2012 305(b) report on the status of N.H. waters, and are based on data collected from 2001-2011.

Designated Use	Parameter	Category	Comments
Aquatic Life	Phosphorus (Total)	Cautionary	<5 samples and median is > threshold. More data needed.
	pH	Cautionary	< 10 samples and 1 exceedance of criteria. More data needed.
	D.O. (mg/L)	Encouraging	< 10 samples and no exceedance of criteria. More data needed.
	D.O. (% sat)	Encouraging	< 10 samples and no exceedance of criteria. More data needed.
	Chlorophyll-a	Good	>/=5 samples and median is < threshold but > 1/2 threshold value.
Primary Contact Recreation	E. coli	Encouraging	>2 samples exist that are > 75% of geometric mean criteria, but not enough samples to calculate geomertic mean. No single sample exceedances. More data needed.
	Chlorophyll-a	Encouraging	< 10 samples and no exceedance of criteria. More data needed.

WATERSHED LAND USE SUMMARY

Fry, J., Xian, G., Jin, S., Dewitz, J., Homer, C., Yang, L., Barnes, C., Herold, N., and Wickham, J., 2011. Completion of the 2006 National Land Cover Database for the Conterminous United States, PERS, Vol. 77(9):858-864. For larger image contact NHDES.

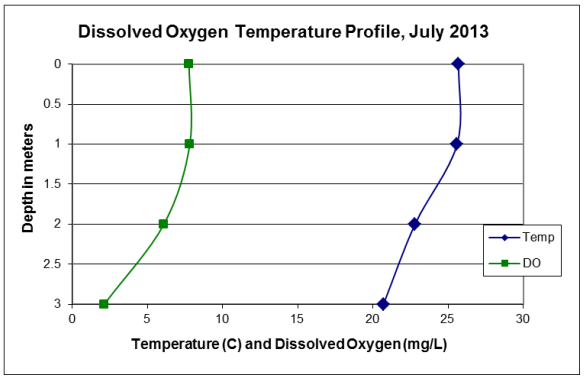


Land Cover Category	% Cover	Land Cover Category	% Cover	Land Cover Category	% Cover
Open Water	7.38	Barren Land	0	Grassland/Herbaceous	1.23
Developed-Open Space	2.08	Deciduous Forest	22.44	Pasture Hay	10.79
Developed-Low Intensity	2.75	Evergreen Forest	10.41	Cultivated Crops	0
Developed-Medium Intensity	1.04	Mixed Forest	38.91	Woody Wetlands	1.7
Developed-High Intensity	0	Shrub-Scrub	1.61	Emergent Wetlands	0

VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS
CLARKSVILLE POND, CLARKSVILLE, NH
2013 DATA SUMMARY

OBSERVATIONS AND RECOMMENDATIONS (*Refer to Table 1 and Historical Deep Spot Data Graphics)*

- **CHLOROPHYLL-A:** Chlorophyll levels were low and below the state median. Visual inspection of historical data indicates stable chlorophyll levels since monitoring began.
- **CONDUCTIVITY/CHLORIDE:** Deep spot conductivity was average for most NH lakes and only slightly greater than the state median. Visual inspection of historical data indicates relatively stable epilimnetic (deep spot) conductivity since monitoring began.
- **TOTAL PHOSPHORUS:** Epilimnetic phosphorus levels were slightly elevated and greater than the state median. Visual inspection of historical data indicates epilimnetic phosphorus levels fluctuate from year to year.
- **TRANSPARENCY:** Pond transparency was slightly lower than 2012 and less than the state median. Visual inspection of historical data indicates relatively stable transparency since monitoring began.
- **TURBIDITY:** Epilimnetic turbidity was relatively low.
- **PH:** Epilimnetic pH was sufficient to support aquatic life. Visual inspection of historical data indicates average pH levels have remained above 7.0 since monitoring began.
- **DISSOLVED OXYGEN:** Dissolved oxygen levels were low directly above the lake bottom, however recovered closer to the water's surface.
- **RECOMMENDED ACTIONS:** Continue annual water quality monitoring to build a baseline set of data to assess water quality trends and identify watershed management activities. Keep up the great work!



Station Name	Alk.	Chlor-a	Cond.	Total P	Trans.	Turb.	pH
	mg/l	ug/l	uS/cm	ug/l	m	ntu	
					NVS		
Epilimnion	16.2	2.10	58.9	17	2.80	1.30	7.37

Table 1. 2013 Average Water Quality Data for CLARKSVILLE POND

NH Median Values: Median values for specific parameters generated from historic lake monitoring data.
Alkalinity: 4.9 mg/L
Chlorophyll-a: 4.58 mg/m^3
Conductivity: 40.0 uS/cm
Chloride: 4 mg/L
Total Phosphorus: 12 ug/L
Transparency: 3.2 m
pH: 6.6

NH Water Quality Standards: Numeric criteria for specific parameters. Results exceeding criteria are considered a water quality violation.
Chloride: < 230 mg/L (chronic)
E. coli: > 88 cts/100 mL – public beach
E. coli: > 406 cts/100 mL – surface waters
Turbidity: > 10 NTU above natural level
pH: 6.5-8.0 (unless naturally occurring)

HISTORICAL WATER QUALITY TREND ANALYSIS

Parameter	Trend	Explanation	Parameter	Trend	Explanation
pH	N/A	Ten consecutive years of data necessary.	Chlorophyll-a	N/A	Ten consecutive years of data necessary.
Conductivity	N/A	Ten consecutive years of data necessary.	Transparency	N/A	Ten consecutive years of data necessary.
			Phosphorus (epilimnion)	N/A	Ten consecutive years of data necessary.